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OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

August 31, 2012

Bill Stout
Bureau of Land Management
Pocatello Field Office
4350 Cliffs Drive
Pocatello, Idaho 83204

Re: Notice of Intent (NOI) to Prepare an Environmental Impact Statement (EIS) for the Husky 1-North Dry Ridge Mine (Husky 1-NDR). EPA Project Number 12-0038-BLM.

Dear Mr. Stout:

The U.S. Environmental Protection Agency (EPA) reviewed the NOI for the Husky 1-NDR Mine in SE Idaho. Our review was conducted in accordance with EPA responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act (CAA).

The NOI discusses Agrium's proposed open pit phosphate mine and reclamation plan on Husky 1-NDR leases located on the Caribou-Targhee National Forest and private lands. As the Federal lease administrator BLM will serve as the lead agency and the Forest Service will be a co-lead for the development of the EIS. The preliminary, general issues identified include potential impacts to surface and ground water quality/quantity, uptake of contaminants to vegetation, wildlife, grazing, Native American rights/resources, inventoried roadless areas (IRAs), and wetlands and riparian habitat. The EPA agrees that these are appropriate issues that must be evaluated in the EIS.

This proposal is located in SE Idaho, which is a large phosphate mining district in the region. There are approximately 15 other large-scale open pit phosphate mines in this district that have been mined over the past 60 years. As you are aware, EPA, BLM, USFS, IDEQ, and other agencies are working together to conduct Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) investigations and cleanup actions at many of these phosphate mine sites, including portions of the Maybe Canyon Mine adjacent to the Husky 1-NDR proposed mine. This and other mine sites have left a legacy of contamination that is responsible for widespread surface water contamination, localized but numerous groundwater impacts, impacts to fisheries, and contaminated vegetation that has resulted in significant losses of livestock (including sheep, horses, and cattle). In light of the large scope of existing, serious adverse impacts to the environment, we believe that it is imperative that this mine be designed such that it avoids environmental degradation, does not cause or contribute to current problems, and preserves public resources.

In consideration of the past environmental impacts outlined above, there are a number of issues that merit added scrutiny. These include: (1) how the project may impact the quality of groundwater and surface water; (2) impacts to reclamation vegetation and risks to wildlife and livestock; and (3) impacts to wetlands and other waters of the United States.

Our other key concerns include ensuring that a complete range of alternatives are analyzed; employing an appropriately conservative approach to environmental modeling; making sure that there is adequate financial assurance to ensure that the mine is reclaimed and managed post-closure if necessary; and taking a hard look at potential impacts to cultural resources, IRAs, fish and wildlife, and CERCLA activities. Details regarding these issues and other general recommendations are enclosed for your consideration during the development of the EIS.

I also want to thank you for contacting us to keep us informed on proposals in SE Idaho and this project prior to the federal register notice. The EPA appreciates engaging early in the NEPA process and is interested in review of preliminary reports if possible. Because of the legacy of environmental contamination from phosphate mines in SE Idaho, we are keenly interested in ensuring that environmental resources are protected. Reviewing preliminary reports and documents allows us the opportunity to aid in identifying issues early in the process and provide feedback during the development of the EIS. We have found that it is beneficial to work through issues prior to the public draft EIS when analyses can be modified and mitigation is being designed. I appreciate your consideration on this matter and we look forward to talking with you more and exploring this possibility.

Thank you for the opportunity to provide comments early in the NEPA process. If you have any questions please contact me at (208) 378-5757 or by email at mcwhorter.lynne@epa.gov.

Sincerely,

Lynne McWhorter
Environmental Review and Sediment Management Unit

Cc: Dave Tomten, EPA R10 Idaho Operations Office

EPA Scoping Comments on Proposed
Husky 1- NDR

Purpose and Need
The NEPA analysis should include a clear and concise statement of the underlying purpose and need for the proposed action, consistent with the implementing regulations for NEPA (see 40 CFR 1502.13). In presenting the purpose and need for the proposed action, the NEPA analysis should reflect not only the purpose, but also the broader public interest and need.

Range of Alternatives to Protect Water and Air Resources
The EPA strongly recommends that the NEPA analysis evaluate reasonable alternatives or mitigation measures to reduce or minimize adverse impacts to groundwater and surface water that may be hydrologically connected and minimize impacts to air.

We recommend that the range of alternatives consider opportunities to reduce the footprint of disturbance, consider risks posed through each pathway, and incorporate treatment as a principal element to remove contaminants from waste streams to reduce post-closure monitoring and management obligations.

The NEPA analysis should clearly outline the physical design of current and proposed facilities (including waste dumps, disposal areas, cover system alternatives, water storage facilities), and address key questions related to water movement and water balance.

In evaluating proposed mine facilities the analysis should include an evaluation of methods for determining performance. This type of monitoring would provide an early warning system in case the proposed mine facilities or cover systems do not conform to model predictions. It is critical, however, that such monitoring be considered during initial design and be incorporated into the plans before construction.

Water Quality/Wetlands
Surface Water/Groundwater Quality
One of our main concerns is related to water quality and potential impacts from selenium, sediment, temperature, and other contaminants of concern. We are especially concerned with transport of contaminants to groundwater and surface water from the proposed pit areas, waste rock piles, and tailings facilities. We understand that currently groundwater flow is not characterized for the site and that BLM will be developing this over the next two years. We support developing a thorough understanding of groundwater/surface water interaction and recommend that a comprehensive study plan be developed which identifies key questions of concern and methods for answering questions which should accompany the analysis.

Impaired Waterbodies
The NEPA analysis should discuss current surface water quality and natural background conditions. Section 303(d) of the Clean Water Act (CWA) requires the States to identify those waterbodies which are not meeting or not likely to meet State and Tribal water quality standards. The NEPA analysis should discuss how a proposed project will identify which waterbodies may be impacted by the project, the nature of the potential impacts, and the specific pollutants likely

to impact those waters. It should also include requirements to report those waterbodies potentially affected by the project that are listed on the State's current 303(d) list and whether Idaho Department of Environmental Quality has developed a water quality restoration plan-Total Maximum Daily Load (TMDL) for the waterbodies and the pollutants of concern. If a TMDL has not been established for those waterbodies impacted by a proposed project, on the 303(d) list, as is the case here, then in the interim until one is established, the analysis must include an evaluation of whether or the extent to which the project would achieve requirements that there will be no net degradation of water quality to the listed waters.

The analysis should evaluate impacts to surface water quality and ground water quality from the proposed operations. The proposed operations include not only traditional mining operations, but also impacts related to on and off-site transportation, shipment or ore, and disposal of tailing. The types and magnitude of impacts may vary with the project life cycle (construction, operation, temporary shutdown, closure, and post closure).

Wetlands

The NEPA analysis should include a map of surface water and wetlands in the project area. The analysis should discuss how many acres of wetlands and what type of wetlands would be impacted by the mine expansion. There should be a discussion of how Clean Water Act (CWA) Section 404 requirements for wetlands would be met if there are activities that could have potential impacts to adjacent wetlands or indirect impacts to wetlands such as hydrologic changes due to increases in impervious surface will be evaluated.

Water Balance Modeling

Mathematical modeling used for describing the physical and chemical characteristics of the site or potential impacts, including modeling used for water balance projections, should incorporate a clear statement of the management objectives intended to be achieved by the modeling, and the level of analysis required to meet the objectives; a site-specific conceptual model that describes the system boundaries, time and length scales, hydraulic and chemical characteristics, sources of data and data gaps, and the mathematical relationships used to describe processes; tables of parameter values used in the model, and tables and graphs of results; errors associated with both measured and assumed data, and with results; and recommendations for further analysis. The water balance should include a facility water balance constructed within the framework of a site water balance. Input assumptions should be environmentally conservative and consider the full range of operating and climatic conditions.

Water Management and Treatment

The NEPA analysis should explain the current and proposed operations plans for water management and treatment. The EIS should evaluate and disclose the adequacy, reliability, and operational uncertainty associated with proposed water management techniques over the range of operating and climatic conditions. The analysis should characterize chemical compositions and quantities of process waters, mine drainage, storm water, and treated and untreated effluents. This information should be supported by the results of treatability testing. Assumptions used in the analysis should be reasonably conservative.

Characterization of Hydrologic Setting

The water balance noted above should be tied to characterization of the hydrogeologic setting through a site-wide water balance and whether and how the plans will be revised for the mine expansion. Any

additional modeling used for hydrogeologic characterization should include the elements for analysis noted for water balance modeling.

Financial Assurance

NEPA provides for the disclosure to the public and decision-makers all information concerning environmental consequences of a proposed action before the decisions are made and before actions are taken. NEPA does not directly refer to disclosure of financial assurances. However, a key component to determining the environmental impacts of a mine is the effectiveness of closure and reclamation activities, including long-term water management. The amount and viability of financial assurance are critical factors in determining the effectiveness of reclamation and closure activities and, therefore, the significance of the environmental impacts.

We recommend that the NEPA analysis disclose the estimated cost to reclaim and close the site in a manner that achieves reclamation goals and post-mining land use objectives. The proposed financial assurance mechanisms should be identified. The analysis should disclose costs associated with implementing the reclamation plan, as well as costs associated with implementing contingency measures to deal with reasonably foreseeable but not specifically predicted outcomes. This is necessary to inform the public and decision-makers of the financial risk to the public posed by conditions at the site. These financial assurances should be in a form that protects the public interest in the event that a company is unable to implement contingency measures or perform long-term operation and maintenance at a closed mine site. The EPA believes that it is critical to anticipate environmental impacts that are reasonably foreseeable, yet not specifically predicted and to have financial assurance mechanisms in place to deal with such contingencies.

CERCLA

Proposed mining in the North Dry Ridge area will progress from north to south with overburden placed in the existing North Maybe Canyon pit. We understand that the Husky 1-NDR leases straddle Maybe Canyon of which portions are currently undergoing investigation and remediation through CERCLA. The DEIS should clearly define areas where overburden or wasterock would be placed and how this action meets the legal requirements of CERCLA. We recommend that the EIS include a figure clearly identifying mine facilities, land ownership, surface water resources, and any CERCLA activities. Furthermore, proposed activities should not interfere with ongoing investigations/cleanup efforts.

Air Quality

The EIS should include baseline air quality data previous to mine operations as well as data from existing monitoring reports. The EIS should identify any anticipated issues based on past practices and what mitigation would be used. The EIS should also disclose current operation plans used to minimize/constrict air emissions and fugitive dust and how they may be revised for the expansion.

Conceptual Model

The NEPA analysis should include a conceptual model describing the cause and effect relationships between proposed mine expansion (for each alternative) and potential impacts and issues of concern. The conceptual model should describe the various pathways through which proposed mining activities could affect resources. The model would allow the reader to comprehensively view all possible actions associated with the proposed alternatives that could lead to resource impacts. The model would provide context for the more detailed analysis provided in the narrative. This type of model and supporting

illustrations are very helpful for communicating to the reader the risks posed by various alternatives and the pros and cons of each alternative. It is also useful in describing the rationale for proposed mitigation and monitoring activities. For your reference, below is a link to the EPA's guidance that provides recommendations for the effective development, evaluation and use of models in environmental decision making.
Guidance Document on the Development, Evaluation and Application of Environmental Models (PDF). EPA/100/K-09/003. March 2009. http://www.epa.gov/crem/cremlib.html.

Characterization of Ore, Waste Rock, and Tailings
In order to provide reliable projections of wastewater and solid wastes from the project, the physical and chemical characteristics of ore and wastes waste should be determined. Environmental samples used to support projections should represent a range of conditions that currently occur and that could occur in the future as a result of the project. Waste materials used for environmental projections should be generated from ore that is representative of the material to be mined and related to the mine plan and proposed processing methods. Physical and chemical characterization should be conducted in a manner that provides environmentally conservative estimates of impacts.

It may be helpful to consider the recommendations in the following report, Maest, A.S., Kuipers, J.R., Travers, C.L., and Atkins, D.A., 2005. *Predicting Water Quality at Hardrock Mines: Methods and models, uncertainties, and state-of-the-art.* 2005. Prepared for Earthworks. 77pp. Available online at: http://www.mine-aid.org/predictions/

The following are recommended analyses that may help you with characterization once questions in the study plan for geologic and mineralogy setting/aqueous geochemistry are developed:

- Whole rock analysis
- Mineralogy
- Drill core descriptions.
- Block model or similar model (a computerized estimate of the quantity and characteristics of ore and waste)
- Available literature on the ore deposit
- Mineral occurrences (e.g., on fracture surfaces, in groundmass, using hand specimens and thin section) with an emphasis on sulfides and carbonates
- Acid-base accounting
- Startup of long-term kinetic testing; possible startup of test pads if sufficient material an access to site are available
- Baseline surface and ground water quality and flows (including springs)
- Potentiometric surface for groundwater
- Hydraulic properties (e.g., hydraulic conductivity, porosity, permeability) of soil, vadose zone, and groundwater aquifers, especially under proposed locations of mine facilities
- Examination of characteristics of similar mines in region/area.
- Hydrogeochemical models for prediction of water quality.

Transportation of Hazardous Materials and Concentrates
A recurring problem at mine sites in the Northwest is related to transportation incidents involving hazardous materials. The NEPA analysis should characterize risks related to transportation incidents,

and describe mitigation, response planning, and monitoring programs to mitigate for expected problems.

Roads/IRAs
The NOI identifies IRAs as a preliminary concern for this proposal. Road construction and reconstruction are of key concern to the EPA because roads can be a large contributor of sediment to streams and interrupt the subsurface flow of water, particularly where roads cut into steep slopes. In addition, roads and their use contribute to habitat fragmentation, wildlife disturbance, the introduction or exacerbation of noxious weeds, and increased fire danger from recreational activities. We support limiting access to roadless areas in order to promote habitat and natural hydrologic infiltration and run off. The EIS should describe in detail the location of temporary and permanent roads and describe the need to encroach on IRAs and how that relates to the Forest Plan objectives.

Endangered Species Act
We recommend that the NEPA analysis clearly discuss and list in a table format the ESA listed species that occur in the project area. This section should be linked to habitat discussion and should include a discussion of what activities are being proposed to avoid impacting listed and sensitive species.

Monitoring
The NEPA analysis should describe project monitoring in some detail. We recommend as a general rule that the level of effort afforded monitoring be commensurate with the complexity of the project and the risk to and sensitivity of the affected environment if a project is permitted and/or approved. As a first step, we recommend that the NEPA analysis clearly define the goals and objectives of monitoring, and present an overall monitoring strategy for the project. Second, the NEPA analysis should provide enough detail on the monitoring program for reviewers to evaluate whether the goals and objectives of monitoring will be achieved. This can generally be satisfied by providing summary information on monitoring (including a list of measurement parameters, methods, locations, and frequency), data analysis, and reporting. In addition, we recommend that alternatives include clear requirements for regular analysis and reporting of data to oversight agencies, and include a requirement that the operator submit a full sampling and quality assurance plan for agency approval. The NEPA analysis should discuss who will conduct monitoring, the frequency and how monitoring will direct management decisions.

Disclosure of Uncertainty
For all predictions of effects, regardless of whether they are qualitative or quantitative, the NEPA analysis should disclose the limitations of the predictions, and the associated uncertainty. It should also disclose uncertainty or risk associated with implementation of mitigation measures Sources and magnitude of uncertainty should be discussed. Understanding of uncertainties and risks are absolutely necessary for informed decision-making. If uncertainty cannot be reduced by data collection or analysis, it may be possible to mitigate for some uncertainty by developing an alternative or imposing mitigation measures that include monitoring, and contingency planning (see discussion below).

Adaptive Management Planning
The NEPA analysis should describe the strategy for responding to unforeseen circumstances at the site. Adaptive management and contingency planning are particularly important for projects with likely impacts to Endangered Species Act (ESA) species, and for projects that carry a high level of uncertainty in predictions of environmental consequences. The strategy should include "trigger levels" (e.g.,

exceedances of ecological benchmarks) or observations (e.g., statistically significant trends in indicators, permit violations, water balance problems, changes in discharge or chemistry of springs/seeps) that would set in motion a follow-up action. This strategy or plan should be described so that reviewers may comment on its adequacy. This type of plan when coupled with the monitoring program is necessary to mitigate for uncertainties and risks associated with predictions of environmental outcomes, and will provide an early warning system of unexpected outcomes. Such plans are necessary to ensure that post-mining land use objectives can be achieved and sustained in the future.

Cumulative Impacts

The current project exists on federal, state and public land. A cumulative effects analysis should be done for potential impacts to natural resources due to potential foreseeable actions (e.g. expansion of mine on private land or other ground disturbing action that could natural resources) regardless of what agency (Federal or non-Federal) undertakes the action (40 CFR § 1508.7). We recommend that projects that will be covered by the proposed action utilize the best available science through effective watershed hierarchy and a watershed approach when identifying, quantifying and mitigating cumulative impacts. The EPA has issued guidance on how we are to provide comments on the assessment of cumulative impacts, *Consideration of Cumulative Impacts in EPA Review of NEPA Documents*, which can be found on the EPA's Office of Federal Activities home page at:
http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf. The guidance is a good tool to assess the adequacy of the cumulative impacts assessment in five key areas. The EPA tries to assess whether the cumulative affects analysis:

- Identifies resources if any, that are being cumulatively impacted;
- Determines the appropriate geographic (within natural ecological boundaries) area and the time period over which the effects have occurred and will occur;
- Looks at all past, present, and reasonably foreseeable future actions that have affected, are affecting, or would affect resources of concern;
- Describes a benchmark or baseline;
- Includes scientifically defensible threshold levels.

We recommend that BLM review the guidance and include requirements in the NEPA analysis to assure these areas are addressed in the cumulative effects analysis for proposed projects.

Climate Change

The EIS should describe the current conditions related to climate and future predictions of climate shifts in the Northwest. Potential effects of climate change may include changes in hydrology, sea level, weather patterns, precipitation rates, and chemical reaction rates. CO2 concentrations also lead to preferential fertilization and growth of specific plant species. The cumulative effects analysis should include a discussion on potential changes in precipitation, stream flow, changes in vegetation and wildfire frequency. A key component of site restoration involves success of revegetation to reduce erosion and impacts to the surrounding environment. We recommend that adaptive management be built in to post closure monitoring and management so that measures can be taken in response to potential changes in site conditions that results in mass wasting and affects to COPC source control measures.

It is reasonable to expect that construction of the mine and ongoing mine operations will result in greenhouse gas (GHG) emissions. These emissions should be disclosed in the EIS (metric tons CO2 equivalents/yr). We recommend implementing measures to reduce GHG emissions and offer the following for consideration as components of a construction air pollutant emissions control plan.

- Evaluate the use of available alternative engines and diesel fuels:
    - Diesel engines that meet the proposed EPA 2007 regulation of 0.01 g/bhp-hr (grams per brake horsepower hour).
    - Diesel engines outfitted with catalyzed diesel particulate filters and fueled with low sulfur (less than 15 ppm sulfur) fuel.
    - Fueling on-site equipment, e.g., mining equipment, with lower sulfur highway diesel instead of off-road diesel fuel.
- Install control equipment on diesel construction equipment (particulate filters/traps (DPTs), oxidizing soot filter, oxidation catalysts, and other appropriate control devices to the greatest extent that is technically feasible). Different control devices may be used simultaneously.
    - See www.epa.gov/otaq/retrofit/index.htm for verification of technology retrofit emissions reductions related to any project mitigation measures.
    - Establish idling limit (e.g., 5-10 minutes per hour).
    - Prohibit any tampering with engines and require continuing adherence to manufacturers' recommendations.

Consultation with Native American Tribes

The NEPA analysis should discuss not only the historical structures that exist in the project area but also cultural resources and impacts to Native Americans. The NEPA analysis development should be conducted in consultation with all affected tribal governments, consistent with Executive Order (EO) 13175 (*Consultation and Coordination with Indian Tribal Governments).* EO 13175 states that the U.S. government will continue to work with Indian tribes on a government-to-government basis to address issues concerning Indian tribal self-government, trust resources, and Indian tribal treaty and other rights. Documentation of these consultations should be included in the document prepared under this action. Consistent with the July 28, 1999 memorandum from the Council on Environmental Quality (CEQ) to Heads of Federal Agencies, we strongly urge the Services to consider inviting affected Tribal governments to participate in the NEPA analysis development process as cooperating agencies. This would provide for the establishment of a mechanism for addressing intergovernmental issues throughout the planning process. The NEPA analysis should identify Tribal concerns and issues and discuss how these will be mitigated.